UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/894,184	06/28/2001	Marko Puupponen	460-010402-US(PAR)	5312

2512 7590 03/04/2004

PERMAN & GREEN
425 POST ROAD
FAIRFIELD, CT 06824

EXAMINER	
PHAN, RAYMOND NGAN	

ART UNIT	PAPER NUMBER
2111	

DATE MAILED: 03/04/2004

5

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/894,184	PUUPPONEN ET AL.	
	Examiner	Art Unit	
	Raymond Phan	2111	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 September 2001* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *2,3* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

Part III DETAILED ACTION

Notice to Applicant(s)

1. This application has been examined. Claims 1-10 are pending.

2. The Group and/or Art Unit location of your application in the PTO has changed. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to Group Art Unit 2111.

Specification

3. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

(a) TITLE OF THE INVENTION.
(b) CROSS-REFERENCE TO RELATED APPLICATIONS.
(c) BACKGOURND OF THE INVENTION.
    (1) Field of the Invention.
    (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
(d) BRIEF SUMMARY OF THE INVENTION.
(f) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
(g) DETAILED DESCRIPTION OF THE INVENTION.
(h) CLAIM OR CLAIMS (commencing on a separate sheet).

(i) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
(k) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

Appropriate correction is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1-4, 6-10 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Matero et al. (US No. 6,115,585) in view of Francisco et al. (US No. 6,256,495).

In regard to claims 1, 8, Matero et al. disclose a switching and connecting arrangement for coupling external and internal antennas, wherein the arrangement comprises at least a diversity switch arranged on the circuit board for selecting the first antenna or second antenna and for connecting them in turns electrically to the circuit of the transceiver (see figure 6, col. 5, line 42 through col. 6, line 25); a first integrated antenna switch arranged on the circuit board for selecting a first antenna and connecting it electrically to the diversity switch, wherein the first antenna is either a first internal antenna or a first external antenna to be coupled, wherein the first antenna switch is forced mechanically to select the first external antenna

instead of the first internal antenna when it is coupled to the switch and to select the first internal antenna when disconnected (see figure 6, col. 5, line 42 through col. 6, line 25). But Matero et al. do not specifically disclose a second integrated antenna switch arranged on the circuit board for selecting a second antenna and connecting it electrically to the diversity switch, wherein the second antenna is either a second internal antenna or a second external antenna to be coupled, wherein the second antenna switch is forced mechanically to select the second external antenna instead of the second internal antenna when it is coupled to the switch and to select the second internal antenna when disconnected. However Francisco et al. disclose a multiple antenna switches which comprises a second integrated antenna switch arranged on the circuit board for selecting a second antenna and connecting it electrically to the diversity switch, wherein the second antenna is either a second internal antenna or a second external antenna to be coupled, wherein the second antenna switch is forced mechanically to select the second external antenna instead of the second internal antenna when it is coupled to the switch and to select the second internal antenna when disconnected (see col. 4 line 37 through col. 5, line 8). Therefore, it would have been obvious to a person of an ordinary skill in the art at the time the invention was made to have combined the teachings of Francisco et al. within the system of Matero et al. because it would provide less expensive and less prone to failure and minimize the signal attenuation associated with the utilization of semiconductor diversity switches.

In regard to claims 2, 9, Francisco et al. disclose the diversity switch comprises at least a first feed interface for coupling the first antenna switch and second feed interface for second antenna switch and third interface for coupling the switch to the circuit (see col. 5, line 8 through col. 6, line 37); the first antenna

switch comprises the fourth feed interface arranged for coupling the first internal antenna to the switch, at least fifth feed interface arranged for coupling the first external antenna with its interface to the switch, and at least sixth interface for coupling the switch to the diversity switch(see col. 5, line 8 through col. 6, line 37); the second antenna switch comprises the seventh feed interface arranged for coupling the second internal antenna to the switch, at least eighth feed interface arranged for coupling the second external antenna with its interface to the switch, and at least ninth interface for coupling the switch to the diversity switch (see col. 5, line 8 through col. 6, line 37). Therefore, it would have been obvious to a person of an ordinary skill in the art at the time the invention was made to have combined the teachings of Francisco et al. within the system of Matero et al. because it would provide less expensive and less prone to failure and minimize the signal.

In regard to claims 3, 10, Francisco et al. disclose a switch arranged to couple to the diversity switch electrically to the circuit wherein the switch comprises at least the interface for receiver of the circuit and the interface for transmitter of the circuit (see col. 5, line 8 through col. 6, line 37). Therefore, it would have been obvious to a person of an ordinary skill in the art at the time the invention was made to have combined the teachings of Francisco et al. within the system of Matero et al. because it would provide less expensive and less prone to failure and minimize the signal.

In regard to claim 4, Matero et al. disclose the receiver comprises a separate bandpass filter for processing the receiving signal (see col. 1, line 34 through col. 2, line 37) and that the transmitter comprises a separate low pass filter for processing the signal to be transmitted (see col. 1, line 34 through col. 2, line 37).

In regard to claim 6, Matero et al. disclose the internal antennas are arranged on the circuit board (see figure 6).

In regard to claim 7, Francisco et al. disclose the switch and the diversity switch are integrated in a component comprising at least the first feed interface, the second feed interface, the tenth feed interface, and the eleventh feed interface (see col. 5, line 8 through col. 6, line 37). Therefore, it would have been obvious to a person of an ordinary skill in the art at the time the invention was made to have combined the teachings of Francisco et al. within the system of Matero et al. because it would provide less expensive and less prone to failure and minimize the signal.

6. Claim 5 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Matero et al. in view of Francisco et al. and further in view of Dosch (US No. 6,587,698).

Matero et al. and Francisco et al. teach the claimed subject matter as discussed above except the teaching of the circuit board is fitted in the expansion card comprising a transceiver and also an expansion part fitted at the end of the expansion card wherein the circuit board at least partly and the internal antenna are arranged inside the expansion part. However Dosch discloses the circuit board is fitted in the expansion card comprising a transceiver and also an expansion part fitted at the end of the expansion card wherein the circuit board at least partly and the internal antenna are arranged inside the expansion part (see figure 3, col. 3, line 33 through col. 4, line 50). Therefore, it would have been obvious to a person of an ordinary skill in the art at the time the invention was made to have combined the teachings of Dosch within the systems of Francisco et al. and Matero et al. because

it would provide little hardware expenditure, easy radio communication to carry out.

Conclusion

7. All claims are rejected.

8. The prior arts made of record and not relied upon are considered pertinent to applicant's disclosure.

Wallace (US No. 5,574,987) discloses antenna switching apparatus.

Vuorio et al. (US No. 6,535,748) disclose a wireless communication transceiver having a dual mode of operation.

Gerlach et al. (US No. 6,518,855) disclose an integrated circuit for mobile radio and mobile phone installations.

Oshimi et al. (US No. 6,411,831) disclose a portable phone.

Ylijurva (US No. 6,140,970) discloses a radio antenna.

Skold (US No. 6,570,461) discloses a balanced diversity.

Murakami (US No. 5,722,089) discloses an antenna control device for a radio communication apparatus having a plurality of antennas.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to examiner Raymond Phan, whose telephone number is (703) 306-2756. The examiner can normally be reached on Monday-Friday from 6:30AM- 4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's Primary, Paul Myers can be reached on (703) 305-9656 or via e-mail addressed to paul.myers@uspto.gov. The fax phone number for this Group is (703) 872-9306.

Communications via Internet e-mail regarding this application, other than those under 35 U.S.C. 132 or which otherwise require a signature, may be used by the applicant and should be addressed to [**raymond.phan@uspto.gov**].

All Internet e-mail communications will be made of record in the application file. PTO employees do not engage in Internet communications where there exists a possibility that sensitive information could be identified or exchanged unless the record includes a properly signed express waiver of the confidentiality requirements of 35 U.S.C. 122. This is more clearly set forth in the Interim Internet

Usage Policy published in the Official Gazette of the Patent and Trademark on February 25, 1997 at 1195 OG 89.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-3900.

Raymond Phan
2/20/04